

AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings include changes to Figs. 1-5 and 8.

Attachment: 4 replacement sheets

REMARKS

Claims 1, 2, 4-6, 9, 10 and 13-16 have been amended. Claims 1-16 remain in the application. Reexamination and reconsideration of the application, as amended, are respectfully requested.

The Examiner required new corrected drawings in compliance with 37 CFR 1.121(d) because figures 1-5 and 8 require a legend. Accordingly, Applicants propose that figures 1-5 and 8 be amended as shown on the attached sheets. Applicants welcome further guidance from the Examiner regarding the proposed drawing corrections.

Claims 9-16 were objected to because of the use of the abbreviations "OTDL" and "MEMS." Accordingly, claims 9-16 have been amended to replace the abbreviation "OTDL" with the words "Optical Tapped Delay Line" and to replace the abbreviation "MEMS" with the words "Micro-Electromechanical Systems." Applicants respectfully submit that such terminology is well known to those skilled in the art. No new matter has been added.

Claims 1-16 were provisionally rejected under 35 U.S.C. 101 as claiming the exact same invention as that of claims 1-16 of copending Application No. 11/632635. This provisional double patenting rejection is made moot by the abandonment of copending Application No. 11/632635.

Claims 1 and 6-8 were rejected under 35 U.S.C. 102(b) as being anticipated by Jackson USP 5,793,871. This rejection is respectfully traversed with respect to claims 1 and 6-8, as amended.

For example, representative claim 1, as amended, is directed to a method for secure transmission of an information-containing optical signal in a reflective/transmissive architecture. The claimed method comprises a number of steps in combination. The combination includes dividing the optical signal into a first plurality of spectral sub-bands, modifying each of the first plurality of spectral sub-bands to encrypt the information contained in the optical signal and combining the modified first plurality of spectral sub-bands into a combined optical signal. The

combined optical signal is divided into a second plurality of spectral sub-bands and each of the second plurality of spectral sub-bands is modified to decrypt the previously encrypted information contained in the optical signal.

A similar combination is neither disclosed nor suggested by Jackson.

In contrast to amended claims 1 and 6-8, Jackson writes digital data to an SLM. This imposes data rate limitations, since SLM's are historically slow. More importantly, Jackson's SLM is a distinctly different architecture from that defined by the present claims. Representative claim 1, for example, has been amended to recite a method for secure transmission of an information-containing optical signal in a reflective/transmissive architecture. Support for the recitation of a reflective/transmissive architecture is found, for example, at paragraphs 0038, 0040 and 0042 of the present application. A similar reflective/transmissive architecture is neither disclosed nor suggested by Jackson.

The Office Action refers to Jackson as "imparting a time delay to each sub-band and imparting a frequency shift to each sub-band." It is respectfully submitted, however, that Jackson fails to teach or suggest imparting a time delay to each sub-band and imparting a frequency shift to each sub-band. Jackson only describes imparting a phase shift. Jackson does not teach or suggest creating "sub-bands" of the data spectrum. Jackson merely applies the phase shifts to the data bits (or words) themselves. Claims 1 and 6-8 have been amended to clarify that the claimed method and system are directed to the secure transmission of an information-containing optical signal wherein a plurality of spectral sub-bands are processed or modified (support for the recitation of spectral sub-bands can be found, for example, at paragraphs 0034 and 0035 of the present application). A similar method or system wherein a plurality of spectral sub-bands are processed or modified is neither disclosed nor suggested by Jackson.

The subject matter defined by amended claims 1 and 6-8 is not taught or suggested by Jackson. Jackson requires a 2-D system. In contrast, amended claims 1 and 6-8 encompass both a 1-D system and a multiplicity of 1-D systems in a 2-D arrangement. Jackson requires a hologram.

Amended claims 1 and 6-8 do not require a hologram. Jackson requires a readout laser. Amended claims 1 and 6-8 do not require a readout laser. Jackson requires data blocks to be processed in parallel. Amended claims 1 and 6-8 encompass serial data processing. It is therefore respectfully submitted that claims 1 and 6-8, as amended, are patentably distinct from Jackson.


Claims 2-5 and 9-16 were rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson in view of one or more additional references. These rejections are respectfully traversed for the reasons given above with respect to amended claims 1 and 6-8. The fundamental deficiencies with the Jackson reference are not compensated by the additional cited references. It is therefore respectfully submitted that claims 1-16, as amended, are patentably distinct from Jackson, viewed alone or in combination with the other cited references.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 509622001100.

Dated: December 14, 2007

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Attachments

REPLACEMENT SHEETS